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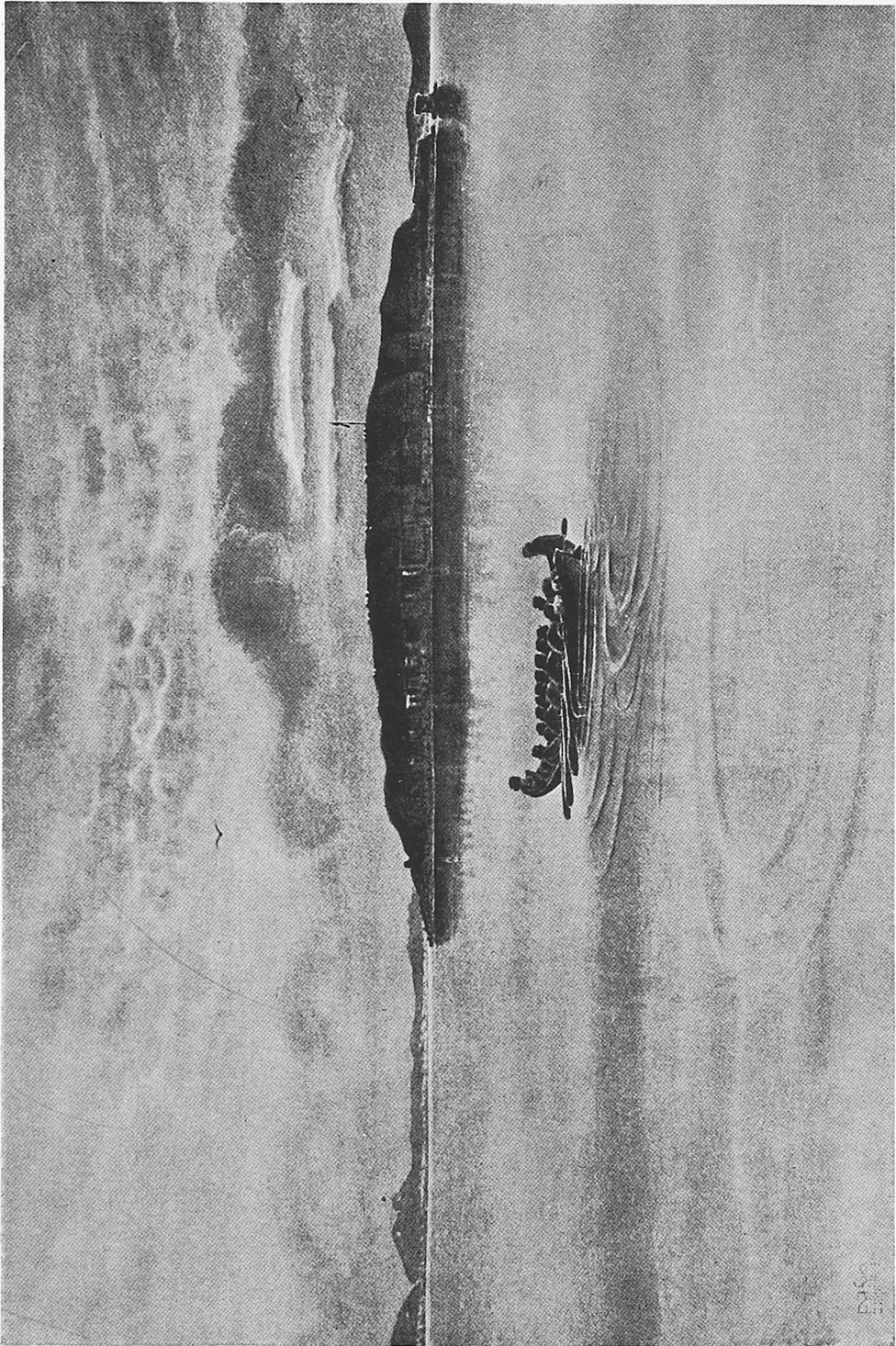
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The Village Hill, St. Paul's Island, Alaska
A Center of the Fur-Seal Industry

FUR: THE NE'ER-ENDING FASHION

SPEAKING in very general terms, London and Peking are the two great treasure houses of fur, London for the Western world, Peking for the far East. Famous as are the Chinese as artists in decorated porcelains and in silken fabrics, it is claimed that they also have no equals as furriers. Li Hung Chang's furs were said to be worth five million dollars even if sold in Peking.

In and around a fur warehouse, out in the city street, there hangs a fatty odour mingled with pungent smells. The fatty odour is common to nearly all the Hudson Bay furs. It comes from the moose grease with which the Indian hunters rub the skins to keep them soft. This combination of smells represents the average atmosphere of an Indian wigwam "let out for a brief period in the centre of the most civilized capital in the world."

There is essentially something barbaric in the use of furs. They are one of the very few precious natural products ready for use without manufacture, and would be equally prized by a European princess or a tartar Khan.

Fashion has much to do with the position in public favor held by different furs in different years. But there are five which will always hold their own on their merits and never go out of fashion: Sable, seal, beaver, sea otter and silver fox; and after these a list of at least twelve. The fluctuations in fashion are by no means merely capri-

cious so far as they affect furs. Different materials or tints need different furs to trim them. If coloured velvets are to be worn, then chinchilla is the most charming fur; if heavy silks and black satin and beads, nothing suits them so well as sealskin and sable; brown cloth calls for mink; pearly grey cloth or blue would create a demand for Canadian lynx or blue fox.

That this is to be a great fur year is already apparent. Fur is being used not only for entire garments and for the customary collars and muffs, but also extensively for trimmings.

Some highly interesting examinations under the microscope of single hairs or fur fibres made by Henry L. Brevoort, show why fur keeps out cold and wet. These effects are due to air cells and pigment cells in the fibre, the pigment cells supplying not only colour to the fur, but also what might be called its water-proofing. In the coloured fibres, as grey coney, the air cells are separated from each other by pigment cells, while in the white coney no pigment cells appear. In Nutria furs the pigment cells are seen working to the exterior of the fibre, to which they supply water repellent material; and in water animals more pigment cells of a water repellent material are discharged than in land animals. In all fur animals, however, which are coloured, it is believed by Brevoort that the pigment cells are discharged under the scales for the purpose of supplying the fibres

with water repellent material.

In one of the illustrations in Brevoort's book, "Fur Fibres as Shown by the Microscope," are seen the air cells; the wall of the fibre; the pigment cells; and certain colourless cells. These colourless cells are found in many fibres and Brevoort assumes, though he says it cannot be proved, that they exist in all fibres, and that their function is to build up and repair the walls of the fibre.

Fur keeps the body that it covers so warm, because the multitude of air cells form the best kind of insulators. In the animals which have to resist dry cold the pigment material is apt to be absent, so that the greatest amount of air space can be had, while in the case of animals which have to resist moisture the pigment cells are present and thus the fibre is made more water repellent. For as these cells work to the surface they supply water repellent material.

Marcus Petersen, in his comprehensive work, "The Fur-Traders and Fur-Bearing Animals," says that in the early days St. Louis was the fur market of the United States. That city was both the starting point of all the expeditions to the Far West, and the place where the skins, received from the Pacific Coast and the interior trading stations along the old overland route, were either offered for sale or reshipped to New York and Boston. The large fur companies had headquarters there. It became a Mecca for the trappers and fur traders who had peltries to sell, and for the furriers who wanted to buy. Then New York, owing to the advantages it enjoyed as the chief city of the country and the principal port of entry

for foreign merchandise, usurped the place of the Southwestern city. When, however, the United States Government took control of the fur industry, at the Pribilof Islands, it announced that the first annual sale of seal and fox skins by the representatives of the Government would be held at St. Louis, the old fur centre of the country. The skins of these animals usually were sent by the leasees of the islands to London, to be sold at auction, the December sales there attracting buyers from all parts of the United States, Europe and Canada.

Petersen says that tens of thousands of Russian sables, hundreds of thousands of ermines, millions of squirrels and large quantities of other Russian skins are sold annually at the fairs held in Irbit and Nijni Novgorod, but that Moscow is the fur centre of Russia. For in that city a large part of the world's supply of Russian squirrels, ermines, Persians, ponies, marmots and foxes are originally marketed.

While the Chinese traders are the principal purchasers at the fair held annually at Kratka on the Chinese border, most of the dog skins and mats, goat skins and rugs, Thibet lamb skins and crosses and other Chinese furs, are exported direct from Harbin, Mukden, Hong Kong, Shanghai, Peking, Tientsen and the other points where they are collected.

Leipzig is an important fair centre, and the world's supply of Astrachan and Persian lamb skins is largely determined by the sales held at the fair which opens there each year the first Monday after Easter. Other fairs are held in Leipzig on New Year's and in September; but the Easter fair which

lasts for two weeks, and is attended by merchants from all the large fur centres in the world, is the chief fur market, the principal offerings being cats, squirrels, Persian lambs and other Asiatic furs.

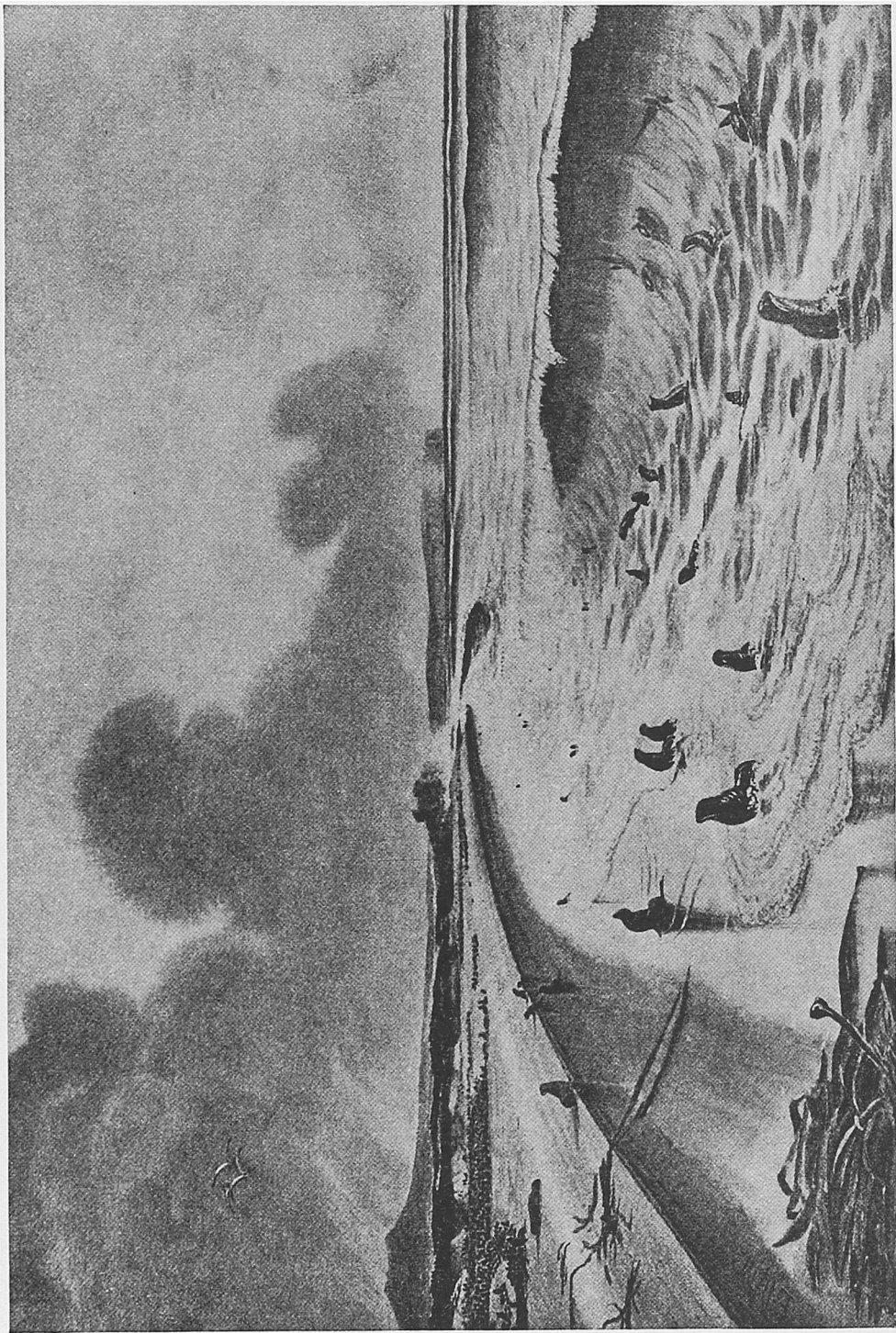
The Irbit fair, on the Siberian side of the boundary line between the two continents, is the mart for Russian furs like squirrel, ermine, fox, beaver, kolinski, Russian fitch, sables, etc. The Nijni fair is the more important and large quantities of Persian, Shiraz and Astrachan lambs, squirrel skins, ermine, bear, mongolian goat, white fox, wolf and dog skins are sold there.

But the London sales held in January, March, June and October are the great fur events of the year. In January offerings of muskrats, beavers and opossums rule. It is the March sales that bring the choice collection of the Hudson's Bay Company and the finest consignments shipped to the great London brokers. These consignments are sold at auction to purchasers from all parts of the world. Comparatively few buyers attend the June and October sales when the least desirable late catches and unsold lots from former sales are disposed of.

If St. Louis was at one time the centre of the American fur trade—though one of the finest fur collections in the world belongs to Mr. James J. Hill, of St. Paul—the American Indian was undoubtedly the best dresser of the skins of the Buffalo and other American animals. In fact the art of tanning is largely borrowed from savages. First placed in an alkali bath, the skins, when the pelt has become soft, are taken out and tubbed, and then shaved by passing them over a knife placed in an upright position; after which they are buttered

and put into a tub of sawdust, where men, half nude, tread on them until the leather has become soft and supple from the heat of the men's bodies. Then the skins are taken out and are ready to be cleaned and finished. Mr. Petersen pays tribute to the American skin dressers, saying that, generally speaking, they are the best in the world. He adds, however, that in the dressing of squirrel skins the dressers of Weissenfels, in Saxony, surpass all others. Their success probably is due in great measure to the nature of the clay and salt deposits available near the town. In any event, nearly the entire community of Weissenfels thrives upon this one industry. Hundreds of men are employed to dress the skins, which are afterwards sorted, matched and sewed by thousands of women and children into lining plates, acknowledged the world over as being vastly superior to the products of their chief competitors in this branch—the Russians.

Besides surpassing all others in dressing squirrel skins, the Germans have few equals in dressing goats and beavers, the only objection to their method being that it leaves the pelt of large skins rather thick. The English specialize on chinchilla, martin, sable, skunk and fox. An objection to their processes is that in cold climates the moisture in the English dressed skins is apt to freeze and cause them to become hard. This never happens to Russian dressed skins, but they have an unpleasant smell which it is hard to eradicate. This is also true of the Chinese method, which leaves a very unpleasant smelling powder on the skins, though the Chinese are successful in dressing sea otters and tigers.



Fur-Seals "Hauling"

The dyeing of fur skins is an ancient art but the present generation has brought it to such a state of perfection that, in many cases, no one but an expert can tell what skins have been touched to deepen or change their colour. The English have long excelled in dyeing seal skins. Formerly twelve or fourteen coats of dye were applied, but dyers now heat the dye and dip the skins into the mixture. As dyers, the Germans are unsurpassed for black. Leipzig-dyed Persian, Astrachan and Ukrainian lamb and lynx skins have a brilliancy of colour and pliability of pelt that cannot be found in others.

The art of imitating, changing and improving furs, is carried on with great success. By means of certain operations and dyes, the leopard skin is imitated; muskrats, susliks and marmots are striped like mink; wolves are made to appear like foxes; martens, mink and sables are darkened; raccoons, opossums and white skunks are dyed black or natural skin colour; silver foxes are successfully imitated by dyeing the red fox skins and pointing them with badger hairs; off colour white foxes have the top hair dyed so that they look like the natural blue foxes; and the market can supply yellow, sky blue and pink Belgian hares.

The seals, otters, beavers, conies, muskrats and a number of other animals have a soft, thick, under fur. This should be adapted for the purposes of the furrier's art by removing the long stiff hairs which form the top skin. Formerly the skins were sheared, and then the long top hairs plucked out by hand. Now a layer is shaved off the under side of the pelt. The stiff hairs, which come further through the leather

than the under fur, are thus loosened so that they can easily be plucked from the fur side with blunt knives.

The skin of the same animal may differ according to the locality where it was trapped. Thus the finest red foxes come from Labrador, Nova Scotia and Eastern Canada, and are worth raw from four to twelve dollars each and upwards, according to size, colour and quality. Maine, Massachusetts, Vermont and Ontario skins are worth a dollar less than the foregoing, and a dollar more than New York, Northern Michigan and Connecticut foxes. Southern and Southwestern skins are the poorest and worth less than half what is paid for those secured in Maine and New York. The intermediate grades are obtained from the Central and Western States. No. 1 and No. 2 foxes are also graded according to size, "large," "medium," and "small."

The New York, Pennsylvania, New Jersey, Michigan, West Virginia and Northern Indiana and Ohio grey fox skins are worth from ten to fifty cents more than those from Virginia. Delaware, Maryland and North Carolina, each in turn grade somewhat higher than the Southern Ohio and Indiana, Kentucky, Missouri and Oklahoma skins.

Silver fox brings from one thousand to twenty-five hundred dollars according to size, quality and colour.

An idea of the vast quantity of fur used can be gained from the statement that London imports annually 80,000,000 rabbit skins. It is said that much of the "ermine" worn at the coronation of George V. was rabbit.

Writing in the *New York Times*, Henry W. Elliott, an authority on the

Alaska sealing industry, writes of the seal as a submarine. He begins by pointing out that we have come to regard the soaring albatross or the condor as the prototype of the aeroplane. When we look for a natural model for the submarine we find it well made in the body of the fur seal and fully suggested by its method of progression in the sea, for it travels there only when wholly submerged. It is the U-Seal.

Unlike, however, the "untersee-bote," the fur seal is not fitted for swimming on the surface; it only rises there to survey, to breathe and to sleep. It never attempts to swim with head above water on any course, no matter how short. It rises when undisturbed or not alarmed, looks about with head and neck well stretched up above the surface of the sea, fills its lungs with air (literally compressed), turns its head down and with its powerful anterior flippers drives itself below the surface to the depth of five or ten feet, then ahead on that level. Thus submerged the body of the seal glides through the water as swiftly as a swallow in the air—it is a vanishing streak to our eyes.

How long it remains thus submerged when traveling no one has any definite knowledge, but the best consensus of opinion gives it a rise at intervals of every three or four minutes to breathe—that is, a pause of less than two or three seconds, with barely more than its nose and eyes above the surface, for exhalation and renewed inhalation—when down goes the trim body to speed ahead again.

When our submarines were first brought out a trip of more than 300 miles from base was the utmost limit of their cruising. Today they have been

so perfected that they can cruise safely more than 3,000 miles from that base. Therefore in this connection it is interesting to know that the fur seal makes a submarine journey in the north Pacific Ocean of more than 5,000 miles from its base on the Pribilof Islands, in Bering Sea, and then returns.

An animal which can not only make such an extended journey, but can steer its course over an uncharted waste from point to point, month by month, with positive regularity and in perfect time, must be a fine type of swimming machine, and it is. Kipling's fine story, "The White Seal," deals with the seal's marvelous sense of direction.

There is to be observed a close resemblance between the cigar shaped submarine boat and the body form of the fur seal. As we view them laterally, this resemblance is complete. They are both driven ahead by feathering screws, and they are both kept on the level of their submerged course at a given distance below the surface by rudders.

Then we observe that the periscope, to which the submarine craft owes all of its efficiency, is duplicated exactly by the seal's nose and eyes and which are all that it ever lifts above the surface when startled and in flight of passage.

Again we note that the fur seal as a submarine has a great advantage over the human boat—it has eyes that can look ahead and around under water—how far we do not know, but it is reasonable to assume that the seal's eye can see as far under water as the eye of a camera can, which we have the evidence of in good records.

Then, too, it also has an acute sense of hearing under sea, for we know that

ANNUAL SUPPLY OF FUR-BEARING ANIMALS

This tabulation, while necessarily only tentative, gives the reader an approximate idea of the quantities of various skins marketed each year, and information as to the localities from which they are obtained:

	AMERICA	EUROPE	ASIA	AFRICA AND AUSTRALIA
Astrachan		1,000,000	. . . . .	. . . . .
Badger	30,000	100,000	30,000	25,000
Bear—Black	20,000	. . . . .	1,000	. . . . .
“ —Polar	350	250	400	. . . . .
Beaver	80,000	. . . . .	1,000	. . . . .
Cat—Domestic	75,000	700,000	150,000	. . . . .
“ —Lynx	40,000	. . . . .	20,000	. . . . .
“ Tiger . . . . .	. . . . .	. . . . .	10,000	5,000
Coney (Rabbit) . . . . .	. . . . .	50,000,000	. . . . .	15,000,000
Ermine	150,000	10,000	750,000	. . . . .
Fox—Blue	5,000	700	2,500	. . . . .
“ —Cross	15,000	. . . . .	10,000	. . . . .
“ —Grey	50,000	. . . . .	150,000	. . . . .
“ —Kitt	10,000	. . . . .	. . . . .	. . . . .
“ —Kitt (Brazil)	40,000	. . . . .	60,000	. . . . .
“ —Patagonia	10,000	. . . . .	. . . . .	. . . . .
“ —Red	20,000	700,000	200,000	50,000
“ —Silver	5,000	. . . . .	1,000	. . . . .
“ —White	30,000	10,000	25,000	. . . . .
Leopard . . . . .	. . . . .	. . . . .	5,000	6,000
Lion . . . . .	. . . . .	. . . . .	. . . . .	200
Mink	500,000	500	20,000	. . . . .
Mole . . . . .	. . . . .	1,000,000	. . . . .	. . . . .
Muskrat	5,000,000	5,000	. . . . .	. . . . .
Opossum	1,000,000	. . . . .	. . . . .	2,500,000
Persian Lamb	100	. . . . .	1,500,000	. . . . .
Pony . . . . .	. . . . .	50,000	150,000	. . . . .
Raccoon	500,000	. . . . .	. . . . .	. . . . .
Sable (Russian) . . . . .	. . . . .	. . . . .	75,000	. . . . .
Skunk	1,200,000	. . . . .	10,000	. . . . .
Tiger . . . . .	. . . . .	. . . . .	500	. . . . .

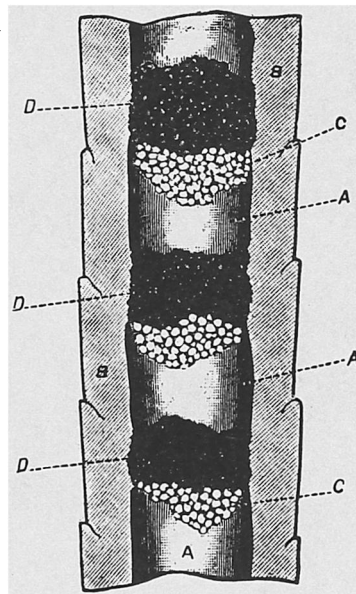
the whirring of a propeller's screw will drive all the seals away for miles around a steamer. We know that because some of the early pelagic sealing vessels were fitted with small auxiliary screws, and these, when put into use, had to be removed.

With reference to the powers of destruction, of course our fur seal boat has no torpedo tubes, but it can and does "shoot its mouth off" at fish with a deadly certainty.

In this connection it is interesting to note that seals do not catch fish by

pursuit of them—not at all. They shoot down from above upon the backs or up from below to strike at the bellies of their finny prey.

How fast these phocine submarines can speed up under the stimulus of excitement or fear no one knows. But it is well known when a vessel is coming down before a gale of wind from the islands, logging fourteen to sixteen knots, that a bevy of fur seals will often follow the ship for hours and repeatedly swim by it, swim around it and then renew the chase and circling of it.



Fur-Fibre Under the Microscope